



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/771,083	02/03/2004	Rudolf J. Hofmeister	15436.171.1	1066
22913 7590 03/13/2007 WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			EXAMINER LE, TOAN M	
			ART UNIT 2863	PAPER NUMBER
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/13/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.:

10/771,083

Applicant(s)

HOFMEISTER ET AL.

Examiner

Toan M. Le

Art Unit

2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-15, 22, 23, 26-28 and 30-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-10, 22, 23 and 26 is/are allowed.
- 6) ☒ Claim(s) 11-15, 27, 28 and 30-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11-15, 27-28, and 30-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Levinson (US Patent No. 5,019,769).

Referring to claim 11, Levison discloses a transceiver module comprising:

a laser diode, wherein the laser diode comprises a vertical cavity surface emitting laser (VCSEL) (col. 1, lines 36-44);

a laser driver coupled to the laser diode (col. 4, lines 59-68);

a microprocessor coupled to the laser driver (figure 3);

memory coupled to the microprocessor (figure 3); and

wherein the microprocessor is adapted to:

collect periodic operating characteristics of the laser diode at various times;

store the collected periodic operating characteristics of the laser diode in the memory;

compare the periodic operating characteristics of the laser diode collected at least two different times to detect damage of the laser diode; and

wherein the microprocessor is further configured to record the periodic operating characteristics as cubic spline to the memory (col. 8, lines 31-42; col. 10, lines 28-68 to col. 11, lines 1-11).

Art Unit: 2863

As to claim 12, Levison discloses a transceiver module, wherein the periodic operating characteristics comprise current/voltage characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

Referring to claim 13, Levison discloses a transceiver module, wherein the periodic characteristics comprise current versus optical power characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

As to claim 14, Levison discloses a transceiver module, wherein the microprocessor is further configured to set a fault flag when damage to the diode is discovered (col. 9, lines 1-14).

Referring to claim 15, Levison discloses a transceiver module, further comprising a communications connector adapted to couple to an electronic component, the microprocessor further configured to notify an electronic component connected to the communication connector when damage to the diode is discovered (col. 9, lines 1-14).

Referring to claim 27, Levinson discloses a transceiver module comprising:
a laser diode, wherein the laser diode comprises a vertical cavity surface emitting laser (VCSEL) (col. 1, lines 36-44);

a laser driver coupled to the laser diode (col. 4, lines 59-68);

a microprocessor coupled to the laser driver (figure 3);

memory coupled to the microprocessor, the memory comprising a reference operating characteristic of the laser diode (col. 9, lines 15-35); and

wherein the microprocessor is adapted to collect periodic operating characteristics of the laser diode and to compare the periodic operating characteristics of the laser diode to the

Art Unit: 2863

reference operating characteristics of the laser diode (col. 10, lines 48-68; col. 11, lines 1-11; col. 16, lines 5-18).

As to claim 28, Levison discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, and the method comprising:

defining reference operating characteristics of the laser diode, wherein the laser diode comprises a vertical cavity surface emitting laser (VCSEL) (col. 1, lines 36-44);

storing the reference operating characteristics of the laser diode, wherein the reference operating characteristics are stored as quadratic spline coefficients (col. 8, lines 31-42; col. 10, lines 28-47);

periodically collecting operating characteristics of the laser diode (col. 9, lines 15-35);

comparing the collected operating characteristics of the laser diode with the reference operating characteristics of the laser diode (col. 10, lines 48-68; col. 11, lines 1-11); and

if damage to the laser diode is discovered, setting a fault flag (col. 9, lines 1-14).

As to claim 30, Levison discloses a method for screening optical transceiver modules for electrostatic discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, and the method comprising:

defining reference operating characteristics of the laser diode, wherein the laser diode comprises a vertical cavity surface emitting laser (VCSEL) (col. 1, lines 36-44);

storing the reference operating characteristics of the laser diode, wherein the reference operating characteristics are stored as cubic spline coefficients (col. 8, lines 31-42; col. 10, lines 28-47);

Art Unit: 2863

periodically collecting operating characteristics of the laser diode (col. 9, lines 15-35);
comparing the collected operating characteristics of the laser diode with the reference
operating characteristics of the laser diode (col. 10, lines 48-68; col. 11, lines 1-11); and
if damage to the laser diode is discovered, setting a fault flag (col. 9, lines 1-14).

As to claims 31-32, Levison discloses a method for screening optical transceiver modules
for electrostatics discharge damage, the method being performed in connection with an optical
transceiver module that includes a laser diode, wherein the periodically collected operating
characteristics of the laser diode comprise current/voltage characteristics and current versus
optical power characteristics (col. 9, lines 15-35; col. 10, lines 48-68; col. 11, lines 1-11).

Referring to claim 33, Levison discloses a method for screening optical transceiver
modules for electrostatics discharge damage, the method being performed in connection with an
optical transceiver module that includes a laser diode, wherein the periodically collected
operating characteristics of the laser diode are collected when a forward bias voltage is applied to
the laser diode (col. 4, lines 56-68).

As to claim 34, Levison discloses a method for screening optical transceiver modules for
electrostatics discharge damage, the method being performed in connection with an optical
transceiver module that includes a laser diode, wherein the periodically collected operating
characteristics of the laser diode comprise at least one of: cut-in voltage; and, forward threshold
voltage (col. 11, lines 59-66).

Referring to claim 35, Levison discloses a method for screening optical transceiver
modules for electrostatics discharge damage, the method being performed in connection with an
optical transceiver module that includes a laser diode, wherein the periodically collected

Art Unit: 2863

operating characteristics of the laser diode are collected when a reverse bias voltage is applied to the laser diode (col. 9, lines 15-35; figure 7).

As to claim 36, Levison discloses a method for screening optical transceiver modules for electrostatics discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein the periodically collected operating characteristics of the laser diode comprise at least one of breakdown voltage; reverse bias knee; and, reverse threshold voltage (figure 7).

Referring to claim 37, Levison discloses a method for screening optical transceiver modules for electrostatics discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein periodically collecting operating characteristics of the laser diode comprises:

varying a voltage across the laser diode; and

measuring a current through the laser diode (col. 1, lines 36-44; col. 9, lines 15-35).

As to claim 38, Levison discloses a method for screening optical transceiver modules for electrostatics discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein at least a portion of the method is performed in response to the occurrence of a predefined event (col. 10, lines 48-66).

Referring to claim 39, Levison discloses a method for screening optical transceiver modules for electrostatics discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, further comprising performing a polling routine in response to a setting of the fault flag (col. 9, lines 1-14).

Art Unit: 2863

As to claim 40, Levison discloses a method for screening optical transceiver modules for electrostatics discharge damage, the method being performed in connection with an optical transceiver module that includes a laser diode, wherein after a calibration of a laser driver associated with the laser diode is performed, current/voltage characteristics of the laser diode are measured by sweeping each section of an I-V curve while controlling the DC bias on the laser diode (col. 10, lines 48-56).

Allowable Subject Matter

Claims 4-10, 22-23, and 26 are allowed.

The reason for allowance of claim 4 is the inclusion of a microprocessor adapted to collect periodic operating characteristics of the laser diode and compare the periodic operating characteristics of the laser diode to the reference operating characteristics of the laser diode stored in a memory, wherein the laser diode and laser driver are arranged such that the laser driver can bias the laser diode through two alternative paths, wherein one of the paths includes a pair of switches arranged to enable selective coupling of the laser driver to the laser diode.

The reason for allowance of claims 5-10, 22-23, and 26 is they depend on allowable claim 4.

Response to Arguments

Applicant's arguments with respect to claims 4-15, 22-23, 26-28, and 30-40 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Art Unit: 2863

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan M. Le whose telephone number is (571) 272-2276. The examiner can normally be reached on Monday through Friday from 9:00 A.M. to 5:30 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on (571) 272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Toan Le

March 7, 2007


MICHAEL NGHIEM
PRIMARY EXAMINER